



OATAO is an open access repository that collects the work of Toulouse researchers and makes it freely available over the web where possible

This is an author's version published in: <http://oatao.univ-toulouse.fr/18490>

**To cite this version:**

Blanco, Julien and Carrière, Stéphanie M. Should LEK be shared in a changing world? Evidences from an ethnobotanical survey in Morocco. (2017)  
In: 58. Annual meeting of the Society for Economic Botany (SEB), 4 June 2017 - 9 June 2017 (Bragança, Portugal). (Unpublished)

Any correspondence concerning this service should be sent  
to the repository administrator: [tech-oatao@listes-diff.inp-toulouse.fr](mailto:tech-oatao@listes-diff.inp-toulouse.fr)

# Should LEK be shared in a changing world?

## *Evidences from an ethnobotanical survey in Morocco*

Julien BLANCO<sup>1</sup>, Stephanie M. Carrière<sup>2</sup>

<sup>1</sup>Post-doc – Dynafor lab, INRA Toulouse, France  
[julien.blanco@inra.fr](mailto:julien.blanco@inra.fr)

<sup>2</sup>Researcher – GRED lab, IRD Montpellier, France  
[stephanie.carriere@ird.fr](mailto:stephanie.carriere@ird.fr)



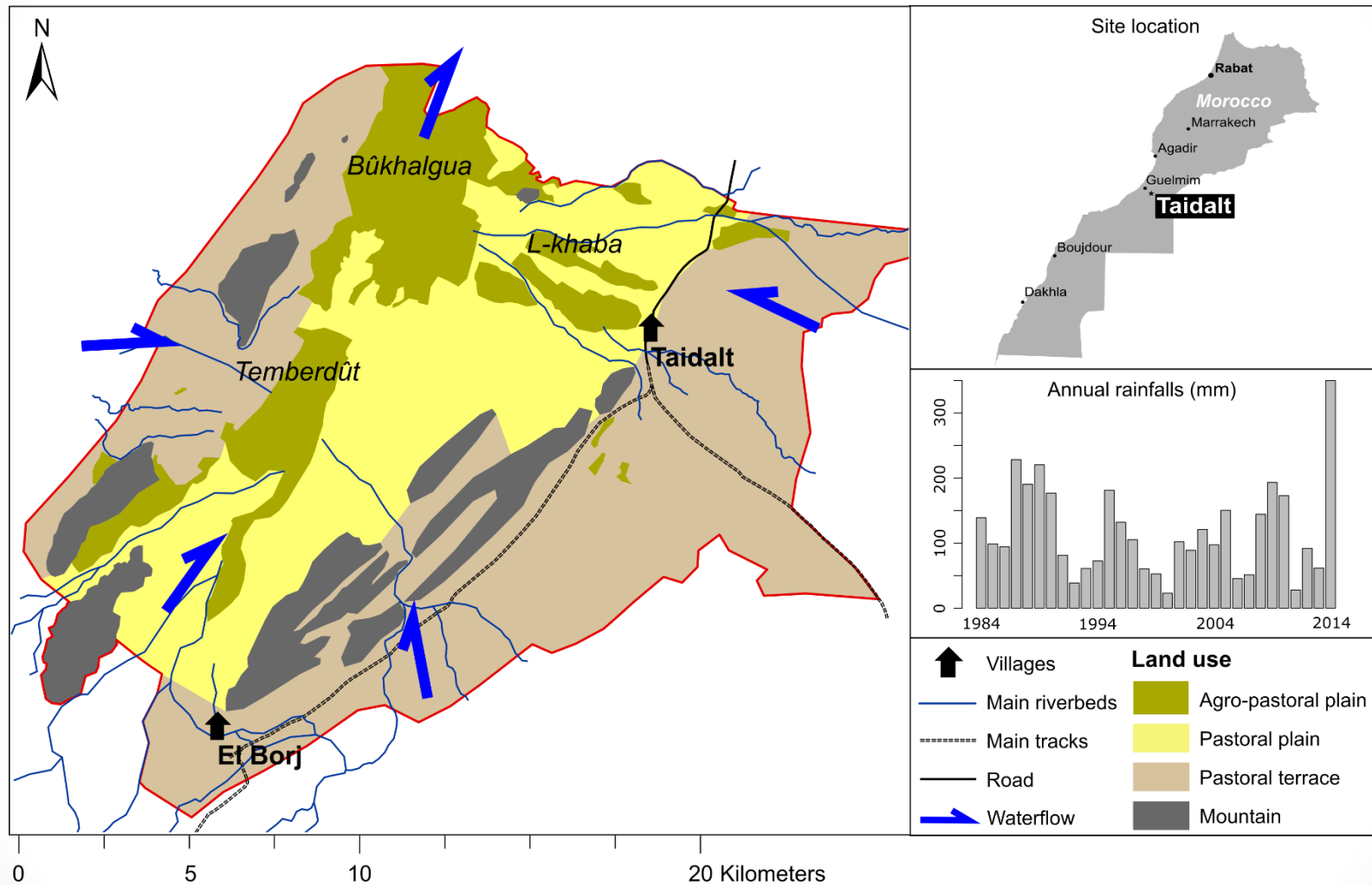




- Very dry and hot climate (<100 mm/year)
- A very high rainfall variability and uncertainty

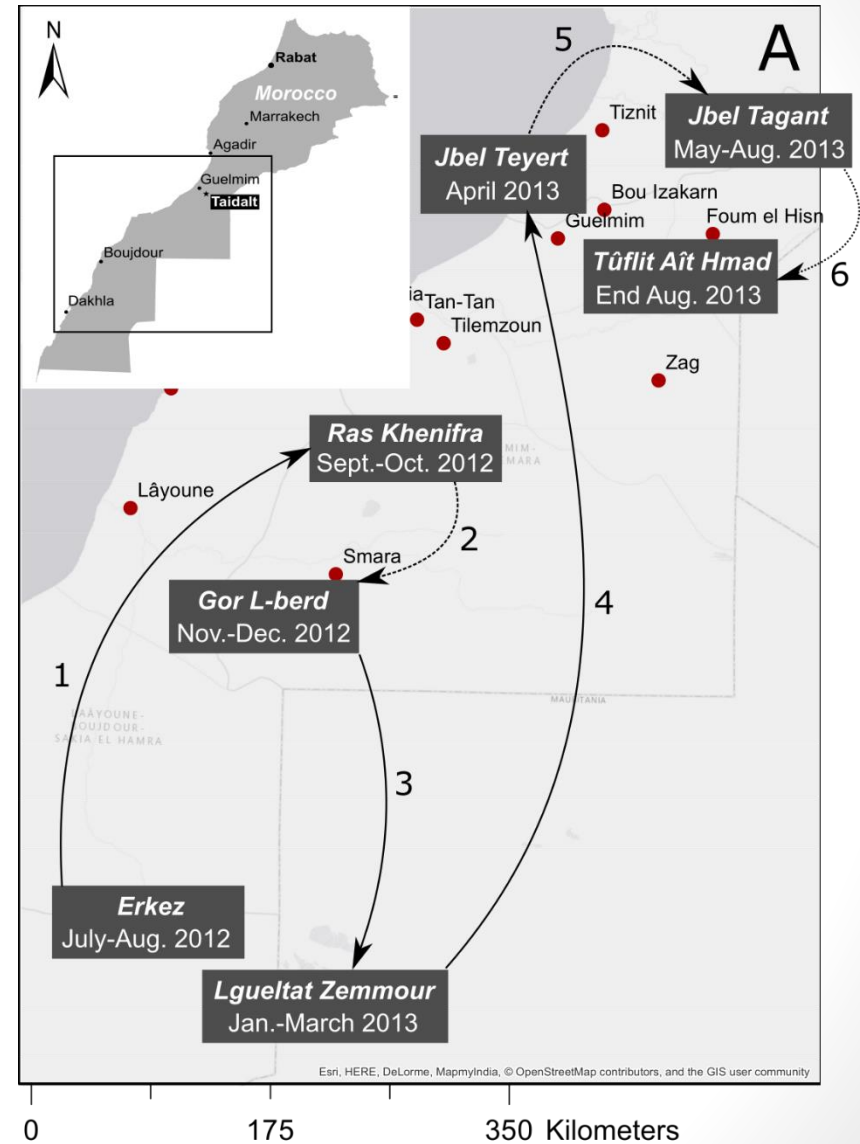
***How to sustain a sustainable livelihood in such uncertain environments?***

# The *Ighuweln* agro-pastoral landscape in Southern Morocco

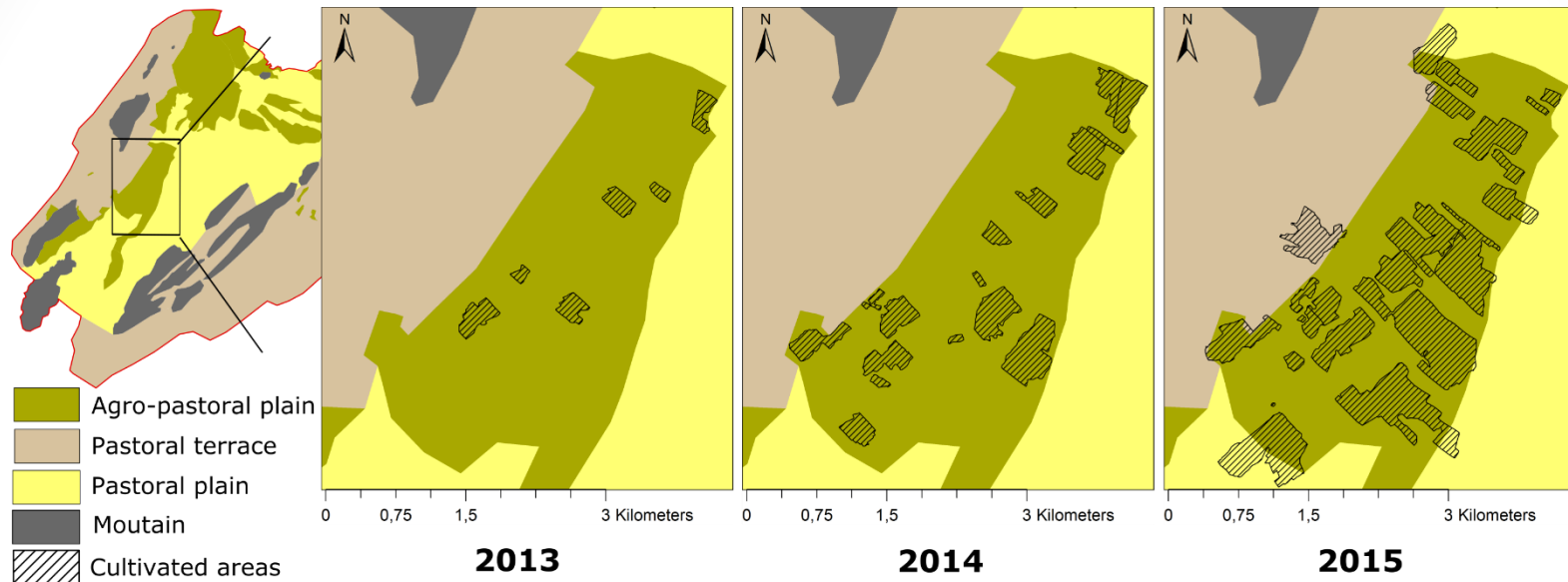




# Agro-pastoralists track environmental variability



# Farmers practice occasional and opportunistic swamp farming





# Plants are a key component for local livelihoods



- People have an opportunistic strategy for MAPs gathering

***Is there any strategy for LEK distribution to adapt to uncertainty?***

- Q1: Distribution between plant species? *ecological apparency hypothesis*
- Q2: Distribution between people? *intra-cultural variations of LEK*
- Q3: Are LEK declining because of changes in the community?

# LEK assessments: free-listings and semi-structured interviews

- Interviews with 37 sedentary informants
  - ✓ 19 males and 18 females
  - ✓ From 21 to 90 year-old
  - ✓ Former nomads and permanently settled-people
- Free-lists analyses (FLAME add-on)
  - ✓ Smith salience index based on ethnospecies (Smith and Borgatti, 1997)
- Interview analyses
  - ✓ Use Knowledge Index (UKI) for each informant and category of use (medicinal, technological, construction, edible)





# Vegetation survey around the village

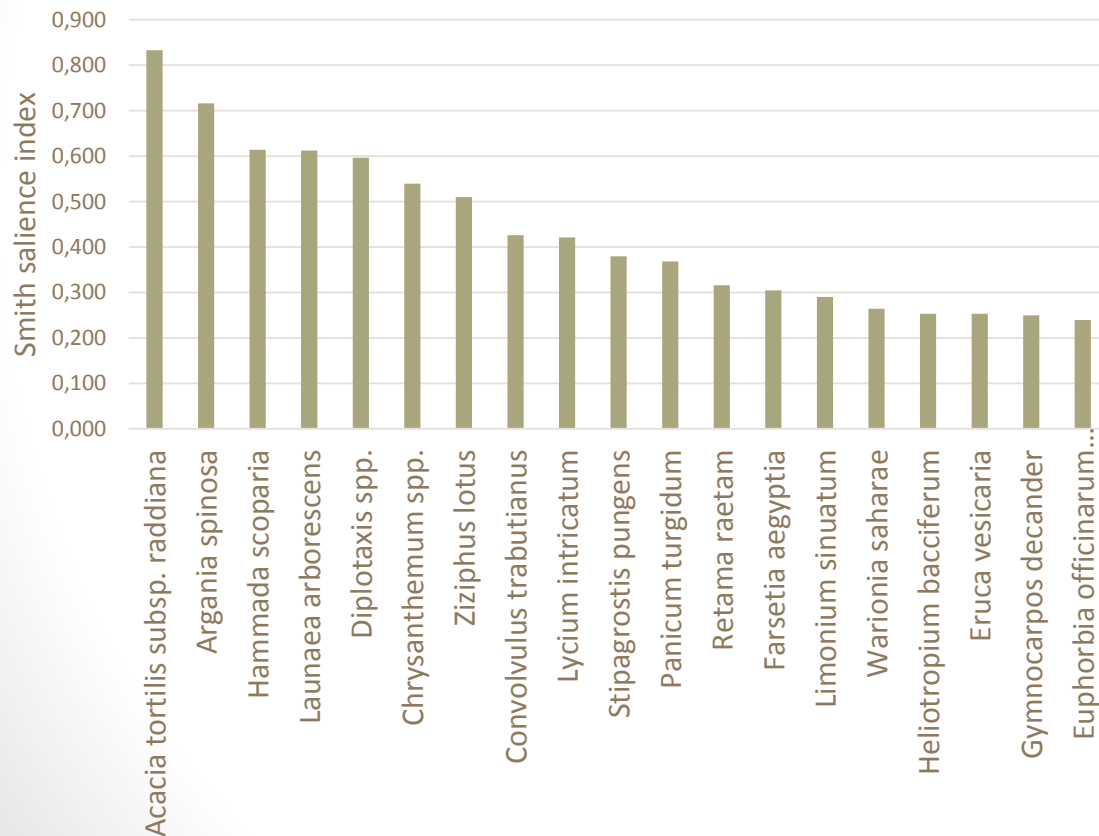
- Performed in 2013 (during a dry year)
- 141 square plots (50x50 m) over a radius of 10 km from the village
- All plant species recorded
  - ✓ Plant species frequency
  - ✓ Plant species Abundance-dominance index (Braun-Blanquet, 1964)



# Plant cultural importance

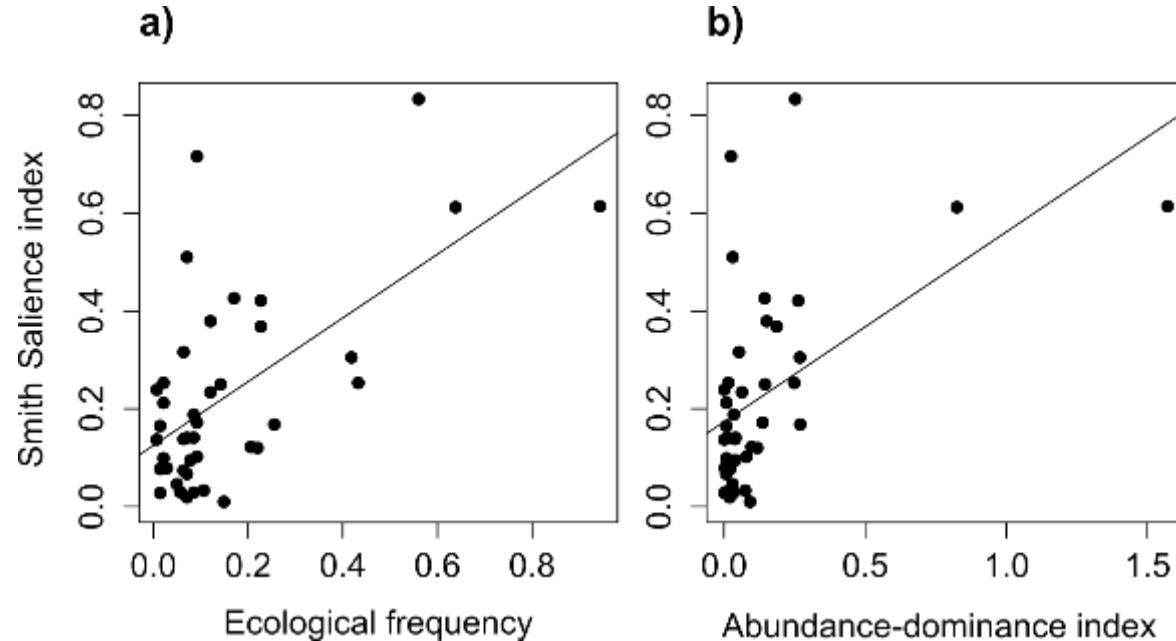
- A total of 164 ethnospecies cited by informants

- ✓ 72% were identified at the species & 17% at the genus level
- ✓ 43 botanical families (Compositae, Leguminosae, Amaranthaceae, Brassicaceae)



# The ecological apparency hypothesis

- A total of 71 species were identified ( $6.7 \pm 4.6$  SD/plot)

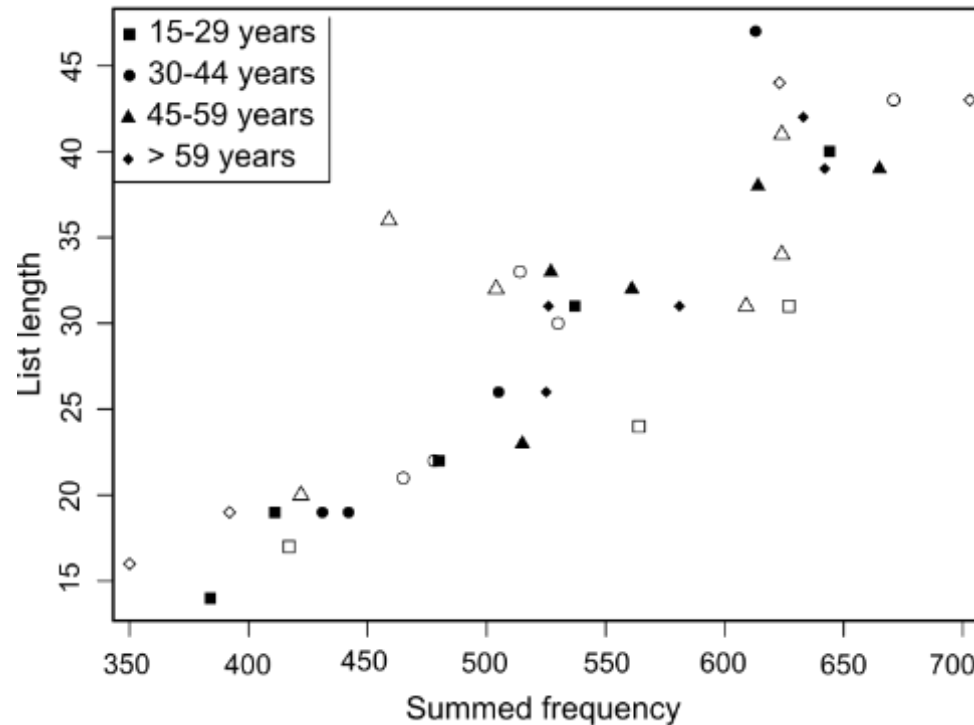


- The ecological apparency hypothesis was verified



## LEK distribution among informants (1)

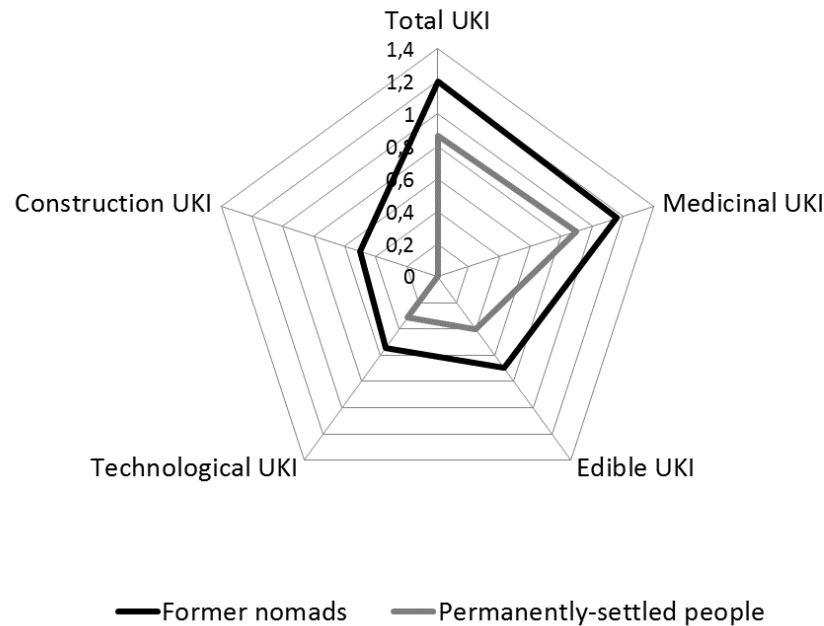
- Men cited 30.1 ( $\pm 9.2$  SD) and women cited 29.8 ( $\pm 9.4$  SD) on average



- No influence of gender, age, marital status or occupation

## LEK distribution among informants (2)

- Significant difference between former nomads and permanently-settled people



- LEK are influenced by the connection of people with the learning environment (Ohmagari and Berkes, 1997)

# Conclusion

- LEK depends of plant availability in drylands
  - ✓ But availability may vary in time
  - ✓ But apparency may also depends on plant visibility
- LEK was homogeneously distributed among people
  - ✓ LEK is easily shared and transmitted to people who needs it
  - ✓ It could constitute an adaptation to unpredictable environments
  - ✓ Transmission patterns should be better informed (through network analyses)
- LEK appears to be conditioned by people interaction with their environment
  - ✓ Are nomads people more knowledgeable than sedentary ones?
  - ✓ Is loss of LEK an on-going process in this region?



# Thank you for your attention

